

Application Serial No. 10/575,451
Reply to Office Action of July 3, 2008

PATENT
Docket: CU-4770

REMARKS

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In the Office Action, dated July 3, 2008, the Examiner states that Claims 1-6 are pending and rejected.

1. Rejection of Claims 1-3 under 35 U.S.C. 102(b)

Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by Ogata (JP 2002-285506) for the reasons of record. Applicant respectfully disagrees with and traverses this rejection.

Applicant respectfully asserts that Ogata teaches a composition which contains a high-degree of hydrocracking process residue as a main component. To this component, asphalt, solvent extract, and other petroleum resins are adequately added or mixed. In contrast thereto, the present application is directed to a plasticizer in which the high-degree hydrocracking process residue is adequately added to a mineral-oil-based plasticizer.

The foregoing is clear from Claim 16 and paragraph [0016] of Ogata, which discloses "100 weight sections of high-degree hydrocracking process residue mixed with 2 to 20 weight section solvent extract." In contrast, Claim 1 of the subject application recites "a plasticizer containing 20 to 100 weight % of a high-degree hydrocracking process residue"; and claim 2 discloses "a plasticizer in which 20 to 400 weight % of high-degree hydrocracking process residue is added to 100 weight % of mineral-oil-based plasticizer".

Accordingly, Ogata does not teach or suggest each and every feature of the rejected claims. Since independent Claim 1 is allowable over the prior art, Applicant asserts that all claims depending therefrom are allowable for at least the same reasons, as well as for the features that they recite. Therefore, Applicant respectfully requests withdrawal of the present rejection under 35 U.S.C. 102(b).

2. Rejection of Claims 1-6 under 35 U.S.C. 103(a)

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogata, in view of Anderson (US 2,231,419) for the reasons of record. Applicant respectfully disagrees with and traverses this rejection.

According to the Office Action, "Anderson teaches blending hydrogenated asphalt with compatible synthetic resins, among them hydrogenated rubbers, in order to raise the penetration". In view of this disclosure, the Office Action considers that it would have been obvious to one having ordinary skill in the art, at the time the

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invention was made, to add the hydrogenated asphalt of Ogata, to the rubbers of Anderson, in order to achieve the desired penetration. Applicant asserts that the Office Action has mischaracterized what is taught in the present application.

The invention of Ogata, specifically, is an asphalt composition obtained by mixing a solvent extract (solvent extract oil or aromatic lubricating oil) with a high-degree hydrocracking process residue. The term "solvent extract" means a plasticizer, which had been used as a major plasticizer for rubber at the time the present invention was conceived. The plasticizer is a low-viscosity liquid having favorable properties and not damaging the products' physical properties. It also has excellent cost performance. However, contamination by the eluted plasticizer and impact of the polycyclic aromatic hazardous substances (PCA) contained therein are acknowledged as problems (see paragraph 0005 of the present application).

The invention of Ogata is not problematic because it is an asphalt composition for road paving. Once the composition is solidified for road paving, safety of the material is rarely a concern. Nevertheless, the invention of the present application is a plasticizer in which a high-degree hydrocracking process residue is added as opposed to the conventional solvent extract. This is not taught in Anderson or Ogata. By using the plasticizer of the present application, it is possible to attain a sufficient plasticizing effect as well as a low viscosity (i.e. in liquid state) of the polymer material to be added at high temperature during the polymer processing step. The plasticizer also solidifies the polymer material to be added at a biologic temperature or the actual operating temperature. Thus, it inhibits the elution of hazardous substances and also inhibits the infiltration of hazardous substances through the skin or mucosa.

Therefore, it is possible to provide a plasticizer, which has favorable properties as a plasticizer and excellent safety and economic efficiency as opposed to the conventional solvent extracts as taught in the cited prior art (See paragraphs 0009 and 0011 of the present application).

In addition, the polymer composition, the rubber composition, and the tire generally tend to easily deteriorate due to various environmental conditions. If a solvent extract is contained in these products, a polycyclic aromatic hazardous substance will be there as well and can detrimentally affect the environment or the human body. However, as previously noted, the use of the plasticizer of the present

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invention solidifies the polymer material to be added, and thus inhibits the elution of hazardous substances and also inhibits the infiltration of hazardous substances through the skin or mucosa.

As such, Applicant respectfully asserts that even if Ogata is combined with the rubber of Anderson, each and every feature of the polymer composition, the rubber composition, and the tire of the present application would not be taught or suggested. As such, Applicant respectfully requests withdrawal of the present rejection under 35 U.S.C. 103(a).

In light of the foregoing response, all the outstanding objections and rejections are considered overcome. Applicant respectfully submits that this application should now be in condition for allowance and respectfully requests favorable consideration.

October 2, 2008

Date

Respectfully submitted,



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